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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,518	07/07/2000	Jae-Yoel Kim	678-509 (P9463)	6612

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02/27/2004

EXAMINER

COLIN, CARL G

ART UNIT	PAPER NUMBER
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2136

DATE MAILED: 02/27/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/611,518

Applicant(s)

KIM ET AL.

Examiner

Carl Colin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

1. Pursuant to USC 131, claims 1-30 are presented for examination.

1.1 One of the information disclosure statements filed on 12/22/2003 fail to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Referring to paper No. 3, the non-patent literature is not initialed by the examiner for not being found in the enclosed application. However a different reference, a foreign patent (WO99/26369) is enclosed but not listed.

#### ***Claim Objections***

2. Claim 26 is objected to because of the following informalities: on line 12, a<sub>c-1</sub> should be b<sub>c-1</sub>. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have

been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3.1 **Claims 1-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,339,646 to **Dahlman et al.** in view of US Patent 6,141,374 to **Burns**.

3.2 **As per claims 1, 11, 21, and 29, Dahlman et al.** substantially teaches an apparatus for generating a primary scrambling code and secondary scrambling codes associated with the primary scrambling code for a mobile telecommunication system, the apparatus comprising: a first shift register memory for generating a first m-sequence, said first shift register memory having a plurality of registers with values  $a_i$  ( $i = 0$  to  $c-1$  where  $c$  = the total number of registers) (see figure 40; a second shift register memory for generating a second m-sequence, said second shift register memory having a plurality of registers with values  $b_i$  ( $i = 0$  to  $c-1$  where  $c$  = the total number of registers) (see figure 4); a primary adder for adding the first m-sequence with the second m-sequence to generate the primary scrambling code (see figure 4); a plurality of masking sections for masking  $a_i$  ( $i = 0$  to  $c-1$ ) to produce secondary sequences (see figure 4). **Dahlman et al.** also discloses using plurality of adders for combining channelization codes and scrambling codes to produce other secondary scrambling codes and not limited to any variations and rearrangements (see column 5, lines 18-35). **Dahlman et al.** does not explicitly teach generating masking sections to produce secondary sequences. However, **Burns** in an analogous art teaches a receiver for generating code sequences and a plurality of masking sections for

masking  $a_i$  ( $i = 0$  to  $c-1$ ) to produce secondary sequences, wherein each of the masking sections cyclically shifts the first m-sequence by using a mask (see figure 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of **Dahlman et al.** to provide masking sections for masking  $a_i$  ( $i = 0$  to  $c-1$ ) to produce secondary sequences wherein each of the masking sections cyclically shifts the first m-sequence by using a mask as taught by **Burns** in order to have relatively low clocking rate (see column 4, lines 57-59); and using a plurality of secondary adders for adding the secondary sequences with the second m-sequence to produce the secondary scrambling codes. This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Burns** so as to have relatively low clocking rate.

As per claims 2, 12, and 22, **Burns** discloses the limitation of wherein the first and second m-sequences are generated based on a first generator polynomial and a second generator polynomial, respectively (see figure 4).

As per claims 3, 13, and 23, **Burns** discloses the limitation of wherein the masking in step (d) is expressed by multiplying mask codes by register values (see figures 3 and 4).

As per claims 4-5, 7-8, 14-15, 17-18, 24, and 26, **Dahlman et al.** discloses the limitation of cyclically shifting the first shift register memory wherein cyclically shifting the first shift register memory comprises the steps of adding predetermined bits of the first shift register memory based on the first generator polynomial of the first m-sequence, right shifting the first

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shift register memory and inserting the value of the added predetermined bits into  $a_{c-1}$  (see column 8, lines 45-61 and see figure 4).

**As per claims 6, 9, 16, 19, 25, and 27, Dahlman et al.** discloses the limitation of wherein  $a_0$  is added with  $a_7$  to form a next  $a_{c-1}$  and  $b_0$  is added with  $b_5$ ,  $b_7$ , and  $b_{10}$  to form a next  $b_{c-1}$  (see figure 4).

**As per claims 10 and 20, Burns** discloses the limitation of further comprising the step of delaying the  $L^{\text{th}}$  secondary scrambling code to produce a Q-channel component of the  $L^{\text{th}}$  secondary scrambling code, wherein the undelayed  $L^{\text{th}}$  secondary scrambling code is a I-channel component of the  $L^{\text{th}}$  secondary scrambling code (see column 6, lines 1-14 and column 3, lines 53-57).

**As per claims 28 and 30, Burns** discloses the limitation of further comprising a plurality of delay blocks for delaying the outputs of the primary adder and the secondary adders for producing Q channel components of the primary scrambling code and the secondary scrambling codes (see column 2, lines 50-67). It is apparent to one skilled in the art to use the output of the adders as described above for producing Q channel components of the primary scrambling code and the secondary scrambling codes.

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*Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as the art discloses the use multiple access coding for radio communications.

US Patents:	5,771,288	Dent et al.
	3,818,442	Solomon

4.1 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl Colin whose telephone number is 703-305-0355. The examiner can normally be reached on Monday through Thursday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

cc

Carl Colin

Patent Examiner

February 20, 2004

  
AYAZ SHEIKH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100